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FACTS RELATING TO HYDROPHOBIA.

Extent, Ease of Transmission, Dangers of Exposure, Time during which the Virus lurks in the System, &c.

IF hydrophobia should ever become as frequent in the United States, as it has been in some countries, it would be a subject of regret that we have no regular statistics of the disease. We have statistics of other diseases, as well as of vice and crime. The labor of collecting them is more than compensated by the diminution of suffering which their publicity occasions. The present is deemed a favorable time for inviting attention to hydrophobia, as it is believed that the disease is more prevalent in the country than at any former period of its history. During the last year especially, the cases have been frequent; and there is reason to believe, that with more knowledge of the disease, and of the dangers of exposure, some, at least, of the many fatal terminations which have occurred, might have been avoided.

'A table, containing a statement of the number of deaths by hydrophobia, in the different parts of the Prussian monarchy, was published in Hufeland's Journal for March, 1824. From this table, it appears that the deaths in ten years amounted to one thousand six hundred and sixty-six.

Years.	Deaths.	Years.	Deaths.
1810	104	1815	79
1811	117	1816	201
1812	101	1817	228
1813	85	1818	268
1814	127	1819	356

'The deaths occurred more frequently in some provinces than in others. The greatest number mentioned in one province is two hundred and twenty-eight. In several provinces, the cases were very rare, or totally absent. Dr. Hufeland accounts for this great diversity, by remarking that the provinces in which it is frequent are contiguous to the forests containing wolves, as those of Poland, Prussia, and the Ardennes.'*

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* United States Literary Gazette.

This table is cited, not only as a specimen of useful research, but as furnishing palpable evidence of the gradual increase of the disease, in a single country, in a period of ten years; the deaths by it being two hundred and fifty-two more in the tenth year, than in the first of the series. It also suggests that the disease continually finds victims to prey upon, among animals which roam in the forests. In this country, farmers have frequently destroyed foxes which fearlessly approached them in open day, without, perhaps, suspecting that they were rabid. From this species of animal, many dogs unquestionably derive the disease, and transmit it to others, and they to other domestic animals, and to human beings. From the fact that the poison is transmissible from one species of animals to another, and from animals to human beings, it appears highly probable that it may be transmitted from one human being to another. Man, then, of all the animal creation, is most exposed to this fearful malady. He alone is endowed with reason to ascertain its nature, and use the means of self-preservation. To contribute, in some degree, to this object, is all that this article attempts.

The following cases, it is believed, are well authenticated. They are quoted with names, dates and references, so that if any error exists it may be easily discovered.

1. Hydrophobia, from the hair of a rabid animal. Time of the virus lurking, eight or ten weeks.

A young man, named Morehead, suddenly expired at Cincinnati, on the 3d of May, 1831. It is stated that all the usual characteristics of the disease were manifested during his short illness, and that a subsequent examination of the body satisfied the four physicians who attended him, that the case was precisely such an one as is produced by the bite of a mad dog; although it was ascertained that he had never been bitten by one. He was a tanner by trade. As several domestic animals had died of hydrophobia during the winter, it is supposed that one of them, which had besmeared its own hair with saliva, had been skinned, and its hide sent to the tan yard, where the poison might have been imparted to those who handled it. The opinion of professional gentlemen is, that the poison, applied to the sound skin, cannot excite the disease; but the victim, in this instance, had a burn on one of his fingers, and the sore had a scab on it at the time of his death.*

2. Hydrophobia, from giving medicine to a rabid animal. Time of the virus lurking, eight or ten months.

Mr. David Rock, of Bedford, Pa., died of hydrophobia, January 1, 1832. Eight or ten months previous to his death, he attempted to administer medicine to a sick heifer, which subsequently proved to have been mad. In the act of giving the medicine, he wounded one of his fingers, and thereby is supposed to have caught the infection which resulted in his death.†

3. Hydrophobia, from the bite of a mad dog. Time of the virus lurking, about five weeks.

The subject was Mr. Street, who resided near Sharon, Hamilton County, Ohio. Near the first of June, 1831, he observed a dog in the stye, biting his swine. In attempting to drive him out, the dog flew at Mr. S. and bit him severely. Nine days after, one of the swine died in a rabid state. Nearly thirty-five days after, on retiring to bed, Mr. S. complained of being unwell. The succeeding morning, on putting his hands into water, for the purpose of washing, he was seized with violent spasms, and forced to recoil several paces. After repeated trials, he succeeded in washing himself.

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* New York Observer, June 18, 1831.
† Philadelphia Saturday Evening Post, January 7, 1832.

He is represented as having been, from this moment, fully conscious of his danger ; he was a pious man, and was supported by religion in his extremest suffering, and in the hour of dissolution.

'The strange spectacle was here presented to the living, of a man in his full strength, who, while walking about the room, conversing with his friends, and exhorting them to prepare for death, and yet perfectly conscious that he must die in a few hours, was foaming at the mouth, and exhibiting, by the convulsions of his whole frame, the horrible distortion of his countenance, and the unnatural expression of his eyes, which seemed ready to burst from their sockets, that a terrible poison was drinking up his spirits, the progress of whose destructive energy no power on earth was able to resist.'*

4. Hydrophobia, from the bite of a mad dog. Time of the virus lurking, fifty-four days.

The subject was a little girl, named Johnson, two and half years old. On the 20th of April, a small dog entered the yard, No. 138 Christie Street, New York, where she was at play, and lacerated her nose severely. The child soon recovered of her wound, and continued well to the 13th of June, when she became fretful, and complained of pain in the head and stomach. The mother prepared an infusion of senna, and when she attempted to administer it the child would shudder and become convulsed. The first circumstance that attracted the notice of the mother, was the peculiar actions of the child when she drank, for she was thirsty, and asked for water; but when she swallowed the water, she would choke and spit it out.

On the succeeding day, Dr. Mead, of Cliff Street, from whom the particulars were derived, was called to attend the child. 'He found her lying quietly on her bed, cheerful and intelligent, for the child was remarkably sprightly for her age, and seemed pleased with the idea of being made well. She said she had no pain, except a little in her stomach. She allowed her person to be examined freely ; but when the nose was touched, she would recoil with shuddering, and when it was pressed she would thrust out her tongue with a shriek, and catch her breath as if suffocated. This was not incidental, for it was tried several times with the same result. The cicatrix of the wound appeared perfectly well, and there was no appearance of disease, or discoloration of the part. She was asked to drink some water. She seemed thirsty, and readily assented. A cup was brought, and she rose in bed, grasped it with both hands, and filled her mouth, but in an instant she dashed the cup from her, and seemed to spit or blow the water from her mouth, with a force and sound as if it were ejected from a heated crucible, and fell upon the bed in horrible convulsions. In a few moments she was quiet and composed again. These experiments were forbidden, as they added greatly to the sufferings of the child. Several attempts were made to administer medicine, but unsuccessfully; for every effort to swallow even the smallest quantity, would bring on a spasm and a distressing constriction of the throat, which would eject it from her mouth. The dread of water continued to increase, to such a degree that if a person approached her with a tumbler of water, it would bring on a recurrence of the paroxysms. The spasms occurred spontaneously with increased power and frequency, until she exhibited all the horrors of this fearful malady. The eyes were wild and protruded; there was gnashing of the teeth until the tongue became lacerated; with frequent spitting and foaming at the mouth; and retching, which was peculiar. It returned at regular intervals of a few moments, attended with but one effort, as if the stomach were suddenly affected by a spasm, and forcibly expelled through the constricted pharynx a little frothy mucus. Then again returned the horrible convulsions and shrieks not to be described, and dreadful to behold, until she became gradually exhausted, and expired forty hours after the invasion of the disease, and fifty-seven days after the infliction of the wound. Several physicians saw the child, and no doubt was left on their minds as to the nature of the disease.'[*]

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* New York Observer, July 30, 1831.

Such are some of the details in relation to this fearful disease. The list might be greatly extended, but these are deemed sufficient to render highly probable the following conclusions respecting it.

Animals known to have been exposed, or slightly suspected of the disease, ought to be immediately confined. On the decisive appearance of the disease, they ought to be immediately destroyed. There is an instinctive dread of animals infected with the disease, as there is of certan poisonous reptiles. Numbers, however, delight in exhibiting a useless bravery, in approaching them without sure means of defence at hand. It can never be safe in any way to trifle with a poison so deadly in its effects, and at the same time so easily conveyed into the system. One moment the rabid animal may be quiescent, and apparently harmless, and the next moved by convulsions, and a strong propensity to bite; inflicting a death wound on the unsuspecting being who shall be within its reach.[†]

It appears evident that the transmissible poison is contained in the mucus or saliva of the diseased animal, and that the disease may be produced by almost any minute portion of this mucus or saliva, if it only come in contact with the fluids of the system. The poison also appears to be permanent, and active, at least for a considerable time after the death of the diseased animal.[‡] No doubt therefore need remain, as to the active nature of the poison, or the ease with which it is transmitted. In the case of animals diseased or dead, it is not safe for persons having fractured skin, or open wounds, to approach or handle them, either for the purpose of administering medicine or for the operation of skinning. It is better in all cases to sacrifice the small value of the skin, than to endanger life in attempting to save it. Nor can the hides of such animals be safely handled for the purpose of dressing. It is unsafe for persons free from wounds to approach such animals, just in proportion as they are in danger of being wounded, or in any way liable to take the poison.

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[*] Journal of Commerce, June 18, 1831. 2d page, 1st col. top.

[†] A dog which had imparted the disease to several domestic animals, afterwards approached his master, licked his hand, and suffered himself to be caressed, without offering to injure him. He suddenly turned from his master, to a little child standing near, and in the act of biting her was prevented, by a severe blow on the neck, from the child's father, who was anxiously watching the motions of the dog.

[‡] In the case of reptiles, this fact is of general notoriety, as persons who destroy them always sink the head to a great depth in the earth. The poison of a dead reptile, applied to the outer bark of a green stick filled with sap, will produce no action. If a hole be made through the bark, and the poison be placed in contact with the sap, its rapid diffusion may be detected by the eye, since it will raise the bark as it proceeds, and render visible its actual progress for some distance from the place of contact.

If substantially the same poison rages in beasts of the forest, in domestic animals, and in human beings, as is evident from the sameness of its effects—if it is transmissible from one species of animals to another, and from them to human beings, as facts clearly prove; then it is reasonable to conclude that it may be transmitted from one human being to another. On this ground, the greatest caution is required of those who have the care of the victims of this disease. It is imprudent for persons having uncovered wounds of any description, to attend on the human victim afflicted with it. The poisonous mucus or saliva may be, and often, if not always, is thrown to every part of the room in which he is confined. It may strike a small uncovered wound, and be as effectually transmitted as from the tooth of a fox, a wolf, or a dog. The utmost care is requisite on the part of attendants, not only to avoid bites, but to prevent the ingress of the virus, in any quantity, through an aperture of the skin.

The time during which the virus lurks in the human system, has been stated not to be short of ten days, nor to exceed nineteen months. This statement was the result of an observation of a given number of cases. Facts, however, are not wanting to prove that it acts short of the least term, and lurks beyond the greatest. The time of lurking may depend on the stage of the disease in the animal or human being from whom the poison is transmitted; it being reasonable to conclude, that if taken in the earlier stages of the disease it will be less likely to operate soon than if taken when the disease has reached its maximum, or in the later stages. It may also depend on the *quantity* as well as on the *power* of the virus transmitted.[*] Both these circumstances may, in different individuals, vary the symptoms of the disease as well as the time of its appearance. Difference in age, constitution, habits of life, and state of health, at the time of exposure, may cause a difference in the symptoms of the disease, and in the time intervening between exposure and its development, and between its development and fatal termination. Facts indicate the difference; some falling under its power in a very short period, and others enduring it longer. In some the disease appears soon; and in others, years elapse before its development.

As a practical rule, in relation to this strange and hitherto uncontrollable poison, it is deemed strictly philosophical to fix the time of its lurking, in every instance, by the known facts which mark its development; and altogether unphilosophical, when it appears with marked symptoms, to deny its existence, because it appears long after exposure. To deny the possibility of its lurking beyond a short period, has an evident tendency to multiply the dangers of exposure, preclude the explanation of facts which occur, and increase the chances of malpractice. It may appear very improbable, that so active a poison should lurk in the system for years ; but since its development is affected by so many circumstances, facts may render it morally certain that it does remain inactive in the system for a period of years. Facts constitute a firmer basis of belief than any theory, however nicely constructed, and however fully supported by that kind of evidence on which all theories depend. Is it the greater improbability, that the poison should remain long inactive in the system ; or that the disease should appear with marked symptoms, and be wholly separated from the only known exciting cause ? It invites consideration, whether a preconceived opinion, that the poison does never remain long inactive in the system, has not caused many genuine cases of this disease to be passed over in silence ; inquiries respecting the cause of others, which might have proved successful, to be suppressed ; and others still to be designated spontaneous hydrophobia. *Causa latet*, is a rule of safe application to effects witnessed in one connexion, without a circumstantial knowledge of the cause, with which, in other connexions, they have been invariably associated.

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[*] In reference to the four cases of supposed hydrophobia, stated in Part I. [see last Journal] of this account, it is an ascertained fact, that the person bitten by the dog, was bitten on the first day of the appearance of the disease in the dog; that the three who were bitten by this person, were all bitten in the earlier stages of his disease, and during the first manifestation of his disposition to bite; and that the wound, inflicted on the one who died first, was more severe than on either of the others, and the wound on the one who died last the slightest of the three.

It may not be difficult to trace the close analogy between these views of hydrophobia, and that scornful defiance of rules and limits which characterizes almost all other inveterate diseases ; and from that analogy to infer their probable correctness. If they err, it is on the safe side. A disease of such power and terror, which has rarely if ever been cured, should, if possible, be avoided. The more secret and undefined the modes of transmitting the poison, the more unceasing and vigilant should be our endeavors to hedge up every possible way of access to it.

In thus adverting to the secondary causes of this disease, in glancing at the wide field on which they may act, and in attempting to set up beacons to warn the unwary to stop short at the point at which danger commences, we do not forget that unseen Power, on whose will the action of secondary causes depends, and by whom their every action is hastened or suspended at pleasure ; nor our obligations of gratitude, that in limits so circumscribed as those which constitute the boundaries of human knowledge, we may arrive at fixed truths, which, by disclosing hidden dangers, pointing out the means of avoiding them, and inspiring us with salutary caution, shall ward off the fatal dart that was covertly aimed at our life—prevent, in many instances, the exquisite sufferings of our fellow beings, and impose, at least, partial restraints on the progress of one of the direst maladies, before whose energy man is ever forced to bow in death.—*Amer. Jour. of Science.*

INFLUENCE OF OCCUPATION ON HEALTH.—NO. V.

[Communicated for the Boston Medical and Surgical Journal.]

I COME now to consider a division of trades which expose to the operation of some agent, capable, or generally considered so, of acting unfavorably on the human body. Most of these agents we shall find are of a subtle nature, not appearing in a solid tangible form, but eluding the senses, and recognized principally from their effects. They are enemies rather to be felt than seen. They act, for the most part, through the medium of that invisible fluid by which we are surrounded ; some being dissolved in the air, and thus altering its properties, and others being merely diffused—that is, raised into the atmosphere by their lightness, or the fineness of the particles of which they consist, and thus conveyed to the person on which they act. These agents are heat, cold, humidity or dampness, the gases produced by human respiration and combustion, the fine particles or dust of substances employed, the exhalations from dead animal or vegetable matter, metallic or universal exhalations, and other chemical agents. Of these in their order.

Class VII.—*Occupations exposing to extremes of temperature.* There are many occupations which require constant exposure to extreme cold ; but where this circumstance is counteracted by active exercise, it is not only not injurious, but decidedly salutary. Employments of this description have been adverted to and sufficiently considered. Of those which require exposure *without* exercise, the number is fortunately small. Among them may be mentioned the drivers of public coaches, who in our climate are sometimes obliged to remain for a considerable space of time in the open air, without the means of exercising their limbs, except partially and imperfectly. Under such circumstances, it is not surprising that instances occur of injury to limbs from frost, and occasionally of loss of life. It is, perhaps, more surprising that these accidents are so rare. The question has often attracted attention, whether the use of ardent spirit renders the body more or less sensible to cold. This may be answered in different ways. As respects the nervous sensibility, or the susceptibility to suffering from cold, this is certainly less after the use of stimulus ; and in this sense it may be said that these substances render the body less sensible to all injurious agents. But it is a very different question whether the body can best bear the continued action of cold without danger to life, with or without alcohol. Those who have heard or read the sensations described which precede freezing, will notice that there is always a disposition to sleep, and that unless this disposition is counteracted by resolution, the sleep proves to be a fatal slumber. Now it is this somnolency, or sleepiness, which the presence of alcohol in the system undoubtedly encourages ; and there can be no doubt that a person exposed to intense cold, will hold out the longest without being actually exhausted, if the system is free from excitement. This is confirmed by what we hear of sailors when wrecked on a coast in winter, and obliged to remain many hours without assistance. Those who remain sober under these circumstances, live longer than those who, to procure themſelves a momentary reſpite from ſuffering, indulge in free potations. We can no more eſcape the operation of a morbid agent by rendering our bodies inſenſible, than we can avoid danger by ſhutting our eyes. In both caſes, the ſhock which prudence and preſence of mind might have averted is rendered inevitable.

We ſhall now conſider ſome of the occupations which expoſe to intenſe heat.

Iron Founding, which conſiſts in fuſing iron in a furnace and then paſſing it into moulds, requires in ſome of its departments an expoſure to a very great degree of heat. In order to be convinced of this, it is ſufficient to conſider that the higheſt ſummer heat is about 95° Fahr., a degree of heat which in this climate is not often exceeded in the ſhade. Now iron fuſes only at a temperature eſtimated at about 20,000 ; and where the caſting is not large, the workman dips out the fuſed metal with a ladle from the furnace, and pours it into the kettle from which it is transferred to the mould. The quantity removed at each time is as large as can conveniently be managed ; and this proceſs is continued until a ſufficient quantity is removed for the caſting in queſtion. In this mode it is not unuſual to decant for one caſting a ton of liquid iron ; an operation which may perhaps require about 15 minutes. The mere muſcular effort required for performing this, is by no means deſpicable ; and when it is conſidered that this is exerted at the very mouth of a furnace heated to ten times the degree required for boiling water, it is obvious that it conſtitutes no very agreeable occupation. The temperature of the atmoſphere in which the workman ſtands, is often as high as 130—150 degrees ; ſcarcely any clothes can be borne, and the ſweat is profuſe. Yet from this extreme heat it is often ſcarce poſſible to avoid paſſing immediately to the temperature of the external air, which may be at or below the freezing point ; and this is done by all fearleſſly, without any ſenſe of danger from the expoſure. No particular precautions are uſed in regard to dreſs, either by thoſe employed as above mentioned or by others of the workmen. At firſt the ſudden variations of temperature are attended with ſome inconvenience, and give riſe to catarrhs and ſlight rheumatic affections. In thoſe accuſtomed to the employment, theſe effects are not produced ; and ſo far as this circumſtance is concerned, the men remain free from diſeaſe. They have not, however, the appearance of very robuſt health ; and where the trade is carried on to a ſufficient extent to afford opportunity for judging, do not appear to be very long-lived. In the moulding department, conſiderable duſt is produced. The intenſe light to which the eyes are expoſed, has a tendency to produce weakneſs of that organ. Burns from the fuſed metal occaſionally happen, but are not frequent.

LOCAL APPLICATION OF CROTON OIL.

BY C. ROBBINS, M.D.

[For the Boston Medical and Surgical Journal.]

The value of Croton Oil, its effects on the ſyſtem when introduced into the ſtomach, and the peculiar circumſtances and forms in which it ſhould be administered, are well understood by the faculty. A case of *mimosis* recently presented itself to me, in which obstinate constipation was one of the prominent symptoms, and yet it was not a case in which the croton oil was admissible. Medicine of any considerable bulk was also inappropriate, since the irritability of the stomach was so great as to reject it *instanter*, and the patient had already reached the twentieth day since the last evacuation from the bowels. Under these circumstances I was induced to try the effect of the oil externally applied, although I had never known or heard of a case in which constipation had been overcome in this manner. One drachm of the oil was accordingly rubbed over the abdomen, but it produced no apparent effect on the bowels. Its only operation was on the skin, bringing out a very copious eruption of minute pustules, which dried away in a very few days, without producing any considerable inconvenience. These pustules were smaller than those usually excited by the antimonial ointment, and attended with less acute local inflammation or soreness. Facts of this kind should be recorded, since they may one day be turned to account in diseases requiring external irritation.

Boston, December, 1832.

Monthly Notice of New Publications.

Human Physiology; Illustrated by numerous Engravings. By ROBLEY DUNGLISON, M.D., Professor of Physiology, &c. in the University of Virginia. 2 Vols. 8vo. Carey & Lea, Philadelphia. 1832.

DR. DUNGLISON is well known to the medical public as the author of a copious dictionary of medical terms—a work displaying great erudition, and one which, we doubt not, will take the place of all similar publications in the hands of the profession in this country. The present work, which is somewhat more attractive in its subject, affords a new proof of the author's uncommon zeal and diligence in that branch of study to which he has devoted himself. The work is a complete treatise on the various functions which subserve the life of the individual and the propagation of the species, accompanied with all the descriptive details which are necessary to the elucidation of the subject, and farther illustrated by numerous wood cuts, placed side by side with the letter press which refers to them, and giving a concise but faithful representation of the various organs of the human body. In considering the various subjects embraced under the comprehensive title of Human Physiology, as understood in modern language, Dr. S. seems to have omitted nothing of importance that was to be found in the works of his predecessors, and has shown himself to be well acquainted with the labors of all the most distinguished physiologists of the age, both in England and on the continent of Europe. He has moreover enriched his work with much valuable information, which has resulted from the investigations of our own philosophers, many of which had been undeservedly neglected, and allowed to remain unnoticed in those publications in which they first made their appearance. To these the author has added many valuable facts, derived from his personal observation; so that the work may be regarded as, on the whole, the most complete treatise on Physiology we possess in our language.

When we compare the treatises on Physiology published within the last thirty years, with the standard works of the last century—the works for instance of Boerhaave and Haller—it would appear that this science, like Chemistry, had commenced almost a new existence within that comparatively brief period. Its modern history commences, it is true, rather farther back than the period referred to. Perhaps John Hunter deserves, more than any one, the credit of having given a new impulse to this science in the true direction. Since his time, though with very variable progress, Physiology has gradually been assuming its just rank as a science. The labors of Bichat in this field have reared an imperishable monument to his fame; and his successors, emulating his zeal, have explored in every direction this vast and mysterious region of inquiry. The contrast between the text books of the science which are now in use, and those which were put into the student's hands twenty years ago, is truly astonishing. We are not obliged to look far back to remember the hopeless dullness in which we pored over the pages of Haller, translating his endless sentences and more endless paragraphs into the vernacular, with no one circumstance to relieve the toil of study, at a time when Bichat and Richerand were viewed almost in the light of dangerous innovators, and as having intruded on ground already in possession of its rightful owners. At present, thanks to the exertions of modern days, Physiology has become a delightful and attractive science, blending amusement with instruction, and inciting the man of taste by all the charms of eloquence, while it allures the philosopher by its appeals to his reason and his love of truth. To collect and digest into a system the known facts on so extensive a subject, has now become a serious labor; but it is one which, well executed, does honor to its author, and entitles him to the respect and gratitude of his cotemporaries.

An Essay on the Ganglionary System of Nerves in the Cavity of the Cranium, and its Use. By WILLIAM INGALLS, M.D. Boston. 1832. pp. 16.

IT is to be regretted that so many of those who arrive at distinction and wealth by the practice of medicine, become in advanced life indifferent to the progress of that science, to the successful cultivation of which they owe their advancement. They are too apt either to become absorbed in a routine of practice, which leaves them no time for literary exertion, or retiring on the wealth they have acquired, to become interested in other objects, and withdraw their attention wholly from those which so strongly fixed them at an earlier period. Only a few are to be found who, after they have purchased by their labors a first immunity from toil, continue, for their love of science, exertions which cannot now be imputed to the desire of increased wealth or more extended practice, and who regard the claims which the younger members of the profession have on them for a portion of the fruits of their researches and the results of their experience. Sir Astley Cooper, by his recent labors in the department of Anatomy and Physiology, has honorably distinguished himself as one of those ardent and distinguished friends of science, and has thus made no small addition to the glory with which the brilliance of his early career had already encircled him. We are peculiarly gratified to find that the veterans of the profession among us are imitating this illustrious example. We are the more pleased with every instance of this nature, because we know that there exists among many an impression that the objects and views with which the profession is pursued here, are less elevated than those which actuate the practitioners of some other countries, and particularly of France; that while in that country there exists a real devotion to science for its own sake, we are influenced by the sordid consideration of personal interest; that we pursue it eagerly for the accumulation of wealth—and when this is satisfied, the interest of this pursuit ceases with the motive which first led to its adoption. We do not believe that there is any foundation for such a charge; and if there be not, the sooner it is rebutted by the evidence of facts the better. With these views we rejoice to find that those who have become distinguished among us, are not backward to impart to others of their acquisition, or indifferent to the advance of that noble science to which they have devoted the ardor of their youth and the strength of their manhood.

Dr. Ingalls is well known to the public as an able and skilful surgeon, in which department of the profession he has long been eminent. His zeal in the pursuit of Anatomy and Physiology, has been less generally appreciated. The present work is an evidence that these departments have received no small share of his attention, and that he has cultivated them with success. It is so brief and comprehensive as to defy analysis, but at the same time to bring it within the reach of every practitioner.

Funeral Oration: Delivered before the Citizens of Boston assembled at the Old South Church, Nov. 17, *at the Burial of* GASPAR SPURZHEIM, M.D. By CHARLES FOLLEN, J.U.D., Professor of German Literature in Harvard University. Boston. 1832.

OF this Oration we have formerly spoken in general terms. It abounds in fine sentiments, and interesting personal anecdotes of Dr. Spurzheim.

These we would gladly relate, as illustrative of the high *morale* of our deceased friend; but they must give way to the following extracts, which contain the more uniform account of his progress through life, and the feelings with which he looked forward to its close.

GASPAR SPURZHEIM was born on the 31st of December, 1775, at Longvich, a village about seven miles from the city of Treves, on the Moselle, in the lower circle of the Rhine, now under the dominion of Prussia. His father was a farmer, and in his religious persuasion, a Lutheran. Young Spurzheim received his classical education at the college of Treves; and was destined by his friends, for the profession of Theology. In consequence of the war between Germany and France, in 1797, the students of that college were dispersed, and Spurzheim went to Vienna. Here he devoted himself to the study of medicine, and became the pupil, and afterward the associate, of Dr. Gall, who was at that time established as a physician at Vienna. * * * * * *

It was at Vienna, in the year 1800, that Spurzheim first attended a private course which Dr. Gall had repeated from time to time, during the four preceding years, in order to explain to a select audience his new theory of the organs and functions of the brain. The dissection of the brain itself still remained imperfect until 1804, when Spurzheim became his associate, and undertook especially the anatomical department. From that time, in their public as well as private demonstrations of the brain, Spurzheim always made the dissections, and Gall explained them to the audience.

The great interest which was excited by these lectures at Vienna, and throughout Germany, roused the fears of that inveterate enemy of all innovations, the government of Austria. An imperial decree, which prohibited all private lectures unless by special permission, silenced the two teachers, and induced them, in 1805, to quit Vienna. They traveled together through Germany, explaining and demonstrating their physiological discoveries in the principal universities and cities; particularly in Berlin, Leipzig, Dresden, Halle, Heidelberg and Munic. Their anatomical demonstrations excited everywhere great interest and applause. The great German anatomist and physiologist, Reil, before whom Gall and Spurzheim dissected a brain in 1805 at Halle, said to Professor Bischoff, who wrote an exposition of their doctrine, 'I have seen in the anatomical demonstrations of the brain, made by Gall, more than I thought that a man could discover in his whole life.' Their peculiar physiological doctrines on the organization of the brain being adapted to various innate qualities of the mind, found many opposers, but also some warm adherents, and gave rise to a great number of publications in which the subject was discussed.

In the year 1807, Gall and Spurzheim went to Paris, where they demonstrated their theory of the brain in the presence of Cuvier, then the chief of the anatomical department of the French Institute, and before many other distinguished men and learned societies. Meanwhile their collections of skulls, and casts of heads, had much increased, so that they were able amply to illustrate their doctrines of special parts of the head, as indicative of mental powers. Cuvier showed himself at first well disposed toward the new doctrine, and expressed his approbation of its general features. But in the year 1808, when Gall and Spurzheim delivered their memoir containing an account of their scientific labors, to the

French Institute, Cuvier was appointed to draw up the report, in which he seemed to labor to diminish as much as possible the merit which he was forced to allow to this new mode of dissection. It is said that Cuvier, whose firmness and independence was by no means commensurate with his great talents, was swayed by the haughtiness of the First Consul, who had seen with displeasure that the French Institute had awarded a prize medal to Sir H. Davy for his galvanic experiments, and 'at a levee rated the wise men of his land, for allowing themselves to be taught Chemistry by an Englishman, and Anatomy by a German.'

In Paris, Gall and Spurzheim began to publish their great work on the anatomy and physiology of the nervous system in general, and that of the brain in particular. They also continued their public lectures and demonstrations. They remained and labored together in Paris till the year 1813. In the following year Spurzheim went over to England, and gave his first public lecture in London, in the amphitheatre of Mr. Abernethy. Mr. Abernethy, though he did not give full credit to the evidence brought forward by phrenologists to prove that special parts of the brain are the organs of certain innate qualities of the mind, fully acknowledged the superiority of Dr. Spurzheim's anatomical demonstrations over every previous mode of dissecting the brain. I have been assured by a gentleman who at that time attended Mr. Abernethy's lectures, that he directed the attention of his class to Dr. Spurzheim's anatomical labors as most important discoveries. Still, the truly scientific method of establishing phrenology by anatomical demonstration, though it secured the respect of learned men, did not render it popular.

From London, Dr. Spurzheim went to Bath, Bristol, Cork, and Dublin, where also he delivered lectures. He then proceeded to Edinburgh. His desire to visit that city was increased by a very abusive article on phrenology, which had appeared in the Edinburgh Review, for June, 1815, concluding with the confident assertion of the writer that his statement of the doctrine of phrenology could 'leave no doubt, in the minds of honest and intelligent men, as to the real ignorance, the real hypocrisy, and the real empiricism of the author.'

Dr. Spurzheim procured one letter of introduction for that city, and but one; this was to the reputed author of the vituperating essay. He visited him, and obtained permission to dissect a brain in his presence. He succeeded in convincing some of his hearers, of the truth of the results of his researches. A second day was named. The room was crowded to overflowing. There, with the Edinburgh Review in one hand, and a brain in the other, he opposed fact to assertion. The writer of the article still believed the Edinburgh Review, but the public believed the anatomist. Dr. Spurzheim now opened a course of lectures on the anatomy and the functions of the brain, and its connection with the mind, He used to say to the Scotch, 'You are slow, but you are sure. I must remain some time with you, and then I shall leave the fruit of my labors to ripen in your hands. This is the spot from which, as from a centre, the doctrine of phrenology shall spread over Britain.'

Edinburgh, the city from which the great anathema had issued against phrenology, actually became the principal seat of it. There, in 1820, a Phrenological Society was formed, at the head of which stands Mr. G. Combe, extensively known by his interesting works; and there a Phrenological Journal continues to be published.

After a residence of seven months at Edinburgh, Dr. Spurzheim returned, in 1817, to London, where his doctrine had meanwhile made many converts, and where he was made Licentiate of the Royal College of Physicians. During the three years of his residence in England, he published several works on Phrenology, particularly one under the title, *The Physiognomical System*, of which he afterwards published an abstract (*Outlines of the Physiognomical System*). He also wrote in defence of his principles, his *Examination of the Objections made in Great Britain against Phrenology*.

Dr. Spurzheim returned to Paris in 1817, where he gave lectures on the anatomy, physiology and pathology of the brain. He also devoted himself to the practice of medicine, and visited, in this capacity, several American families then residing in Paris. Still the medical profession did not seem to be his favorite occupation. At the same time he published some new works in French, and became Doctor of Medicine at the University of Paris, in 1821.

In Paris Dr. Spurzheim married a lady of great merit. She was a widow and had three daughters when he married her. Dr. Spurzheim had no children of his own. Several ladies in this city, who were introduced to Mrs. Spurzheim in Paris and in London, remember her with the highest esteem and delight. Her whole manner expressed a union of true humility, tender attachment, and conscious power, which excited at once affection and confidence. She entered fully into her husband's pursuits, and aided him by her uncommon skill in drawing. To her pencil we are indebted for a number of those excellent drawings used by Dr. Spurzheim in his lectures. But far more important to him was the aid which he derived from the unseen treasures of a true and devoted heart. It was often observed how well their characters seemed to be fitted for each other. They were both adepts in that profoundest of all sciences, and most pleasing of all the fine arts—Christian benevolence shown forth in beautiful manners. It is characteristic of Dr. Spurzheim, that one of the reasons which influenced him in the choice of his wife, was the knowledge that she had undergone great suffering, which he thought essential to the perfection of human nature. An ancient philosopher thought that no one could become a good physician, who had not himself endured many diseases. Whatever be the merits of this speculation as regards the medical profession, it is certainly true in morals—that no one can so readily perceive and deeply understand, and so successfully alleviate the sufferings of others, as he who is himself a man of sorrows and acquainted with grief. Dr. Spurzheim was devotedly attached to his wife, and he remained so after her death to the end of his own life. While he was in this country, though surrounded by many whom he had soon made his friends, he often mourned the loneliness of his situation, particularly when indisposition or fatigue made him long after those small services of domestic affection and ever watchful care, of which those who devote themselves wholly to one of the great general interests of mankind, be it the cause of religion or of science, stand in special need—that wholesome atmosphere of constant love, the absence of which seems to be felt more painfully the more unconscious we are while we inhale it. In his last sickness, he, in a mournful manner, ascribed his illness to the want of warm linen on his return from his lectures; saying, with a sigh, that if his wife had been living, it would have been before the fire ready for him. The disease of his heart he ascribed to his loss of her, saying, his pulse had intermitted ever since her death.

The death of his wife, which took place about three years since, seemed to remind him more strongly that his life and his labors belonged to all mankind, whose vital interests he thought most effectually to promote by developing particularly the principles of education, morality, and religion, to which his studies of human nature had led him. He had visited England again in 1815, and was engaged partly in lecturing, and partly in the publication of different books. The first work he had published in England, 'The Physiognomical System,' contained several summary views of different branches of anthropology, which he now endeavord to make more generally appreciated, by extending the principal chapters, and making them separate books. In one of them, *Phrenology*, he treats of the different powers of the mind, and their cerebral organs, in general. A smaller book, *Outlines of Phrenology*, is an abstract of that work. The two principal doctrines of Phrenology, that of the brain, and that of the mind, were carried out in different works.

In his *Anatomy of the Brain*, he laid down his and Dr. Gall's investigations of the brain and the nervous system. On the other hand, the doctrine of the mind, with its practical bearings on religion and morality, is carried out in his *Philosophical Principles of Phrenology*. The same principles, in a more condensed and practical form, are set forth in his *Philosophical Catechism of the Natural Laws of Man*. The subject of education, on which he rested all his philanthropic hopes, was treated of in his *Elementary Principles of Education*, a book full of the most important information, and excellent counsel. The deranged functions of the brain is the subject of his interesting work on *Insanity*, for which his frequent visits to the Insane Hospitals afforded him a great number of important observations. All the works which Dr. Spurzheim edited after his separation from Dr. Gall in the year 1813, show a spirit of free and indefatigable inquiry. The improvement in the anatomy of the brain, was chiefly Spurzheim's work; he also discriminated more minutely between different faculties of the mind which Gall had confounded, and he endeavored to point out their relation to the development of the brain; he moreover brought method and order into the scattered doctrines of Phrenology.

So great was the interest excited by his lectures, on his second visit to England, that in 1826, when he delivered his course in London, 'not only the large lecture-room of the London Institution, but all the staircases, corridors, and passages leading to it, were filled with hearers.' Still, from the nature of the science itself, which requires constant, extensive, and minute study, it was to be expected that many of those who had been induced to embrace it either by the eloquence of the celebrated teacher, or by partial success in their own phrenological divinations, relaxed in their scientific pursuits; and a number of phrenological societies, formed during the full tide of popularity, dwindled away until they wholly disappeared. Still in Edinburgh, which city Dr. Spurzheim again visited in 1828, the study of Phrenology is pursued with unabated ardor and diligence. From England Dr. Spurzheim returned to Paris, where he continued to lecture, and where he had collected a large phrenological cabinet.

In the summer of the present year, Dr. Spurzheim came to this country, where lectures on Phrenology had been delivered long before his arrival, and a Phrenological Society formed at Philadelphia. On board the ship he proved himself a friend in need to a number of poor emigrants; many of whom being taken sick on their passage, experienced his kind and successful medical assistance. Dr. Spurzheim arrived at New York on the 6th of August, in the heat of summer, while the cholera was raging there, and immediately went on to New Haven, where he stopped a few days. A letter from one of the most eminent men of Yale College, in whose family Dr. Spurzheim spent much of his time, speaks of the 'amiable, winning simplicity of his manners, and his unpretending good sense, and good feeling.' From New Haven he came on to this city, with which he felt already familiar, through a number of Bostonians, with whom he had become acquainted in Europe. He intended to stay in this country about two years, to lecture in the principal towns, then to visit the different tribes of our Indians; and at last to return to Paris. The easy access which that city presents to so many treasures of science, and its being the place of residence of his most intimate friends, gave rise, now and then, to feelings of homesickness; which were soon merged, however, in that universal benevolence which made him consider any portion of the human family with which he happened to be connected, and to whom he could do some good, as his nearest relatives.

The time of Dr. Spurzheim's residence amongst us, is familiar to so many of my hearers, that I shall confine myself to those points which, if they be rightly improved by us, will be a lasting benefit to this community.

He delivered in Boston one course of lectures on the anatomy of the brain, principally for medical men; and two courses of popular lectures on Phrenology, one in Boston and another in Cambridge, which he had nearly completed, when death overtook him in the midst of his labors. In his anatomical demonstration of the brain, he endeavored to unfold the design of nature in the complicated structure of this organ, by tracing its gradual development from its lowest and simplest, beginning in the spinal marrow, to its continually increasing, various and harmonious ramifications. This scientific demonstration of the brain, which was made without any reference to the peculiar doctrines of Phrenology, together with his discoveries of some of the constituent parts of this organ, obtained for Dr. Spurzheim here the same high respect as an anatomist of the brain, which had been accorded to him in Europe by the eminent men in that department.

Of his lectures on Phrenology, which were attended by large numbers of our fellow-citizens, it would be vain to attempt to give an account that would in any degree satisfy those who have enjoyed the high privilege of hearing from his own living lips the results of his original and vast inquiries. Who but he, whose lips are now sealed in death, could set forth his ideas with that natural eloquence which seemed to annihilate the difference between words and things, with those accents so full of impressive earnestness, and persuasive sweetness, which made natives listen to the broken English of a foreigner with the same intense delight with which a stranger, far from home, hears the sounds of his mother tongue, and the voice of a friend.

Whole number of deaths in Boston for the week ending Dec. 21, 28. Males, 10—Females, 18.

Of hooping cough, 1—decline, 1—inflammation of the lungs, 2—fever, 1—unknown, 2—mortification, 2—typhous fever, 1—rheumatic fever, 1—throat distemper, 1—scarlet fever, 2—dropsy, 2—lung fever, 3—paralysis, 1—marasmus, 1—teething, 1—erysipelas, 1—decay of nature, 1—old age, 1—consumption, 2—dropsy on the brain, 1.

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